NEVADA

UNIFIED WATERSHED ASSESSMENT

and

RESTORATION PRIORITIES

September 25, 1998

Nevada Division of
Environmental Protection

USDA Natural Resources
Conservation Service

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Introduction

On February 14, 1998, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture (USDA) completed and sent to the Vice President the Clean Water Action Plan. This Plan provides the framework for addressing, restoring, and protecting our nation's most valuable natural resource: clean water. The Plan lists 111 key action items which are designed to support continued progress toward attaining clean water across the nation.

Unified Watershed Assessments

An important first step in achieving the goals of the Clean Water Action Plan is the completion of a Unified Watershed Assessment. The purpose of the Unified Watershed Assessment is to identify those watersheds with the most critical water quality needs and help guide resources toward correcting the identified problems. At the state and tribal level, assessments and priority setting will be used to allocate new resources approved by Congress for the Clean Water Action Plan.

States and tribes were to take the lead in assessing their watersheds. Using the eight-digit hydrologic unit code as the delimiting size factor, each watershed was to be evaluated and then placed into one of the following four categories:

Category 1. Watersheds in need of restoration
These watersheds do not meet, or face imminent threat of not meeting, clean water and other natural resource goals.

Category 2. Watersheds meeting goals, including those needing action to sustain water quality.
These watersheds currently meet clean water and other natural resource goals and standards and support healthy aquatic ecosystems.

Category 3. Watersheds with pristine or sensitive aquatic system conditions on lands administered by Federal, State, and Tribal Governments.

These watersheds have exceptionally pristine water quality or other sensitive aquatic system conditions and are located on lands administered by Federal, State, or Tribal Governments.

Category 4. Watersheds with insufficient data to make an assessment.
These watersheds lack data, critical data elements, or the data density to make a reasonable assessment at this time.

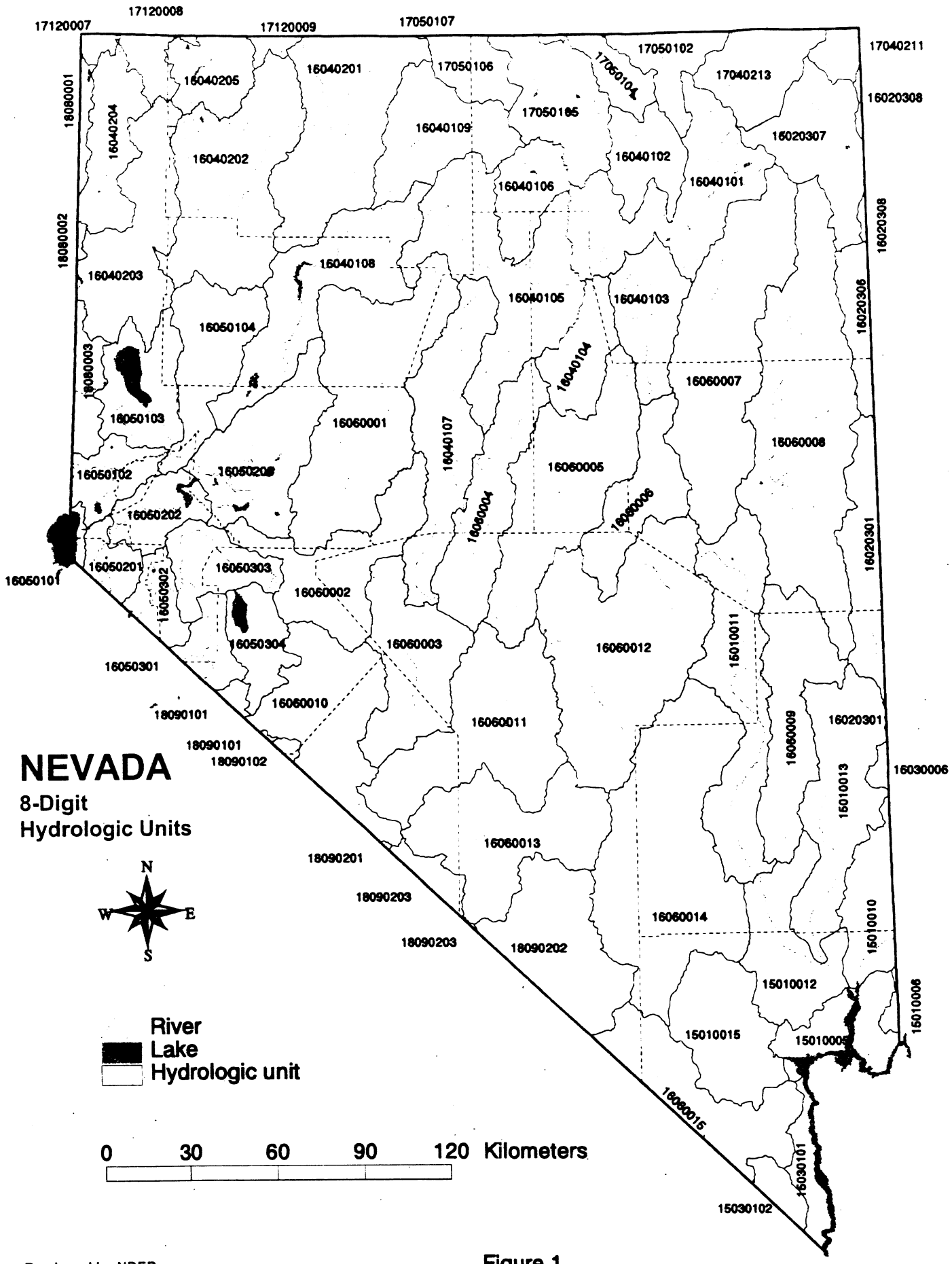
Nevada's Unified Watershed Assessment Process

Nevada used the following strategy to complete its Unified Watershed Assessment:

- convene a small inter-agency technical workgroup to develop criteria for each category and for prioritizing category 1,
- hold a general meeting with numerous tribal, federal, state, local, private and professional association representatives involved in natural resource planning and management to categorize and prioritize the 72 eight-digit hydrologic units in Nevada (see Figure 1 and Table 1),
- draft a summary report describing the process and results of the general meeting and circulate to interested agencies and the general public for review and comment,
- consider comments, finalize and submit the report to the U.S. EPA and the U.S. Department of Agriculture by October 1, 1998.

After consulting the Clean Water Action Plan and the "Framework for Unified Watershed Assessment, Restoration Priorities, and Restoration Action Strategies" document, NDEP and NRCS met in early May with representatives of the USFS, BLM, USGS, EPA and the Nevada Division of Conservation Districts to develop criteria for categorizing and prioritizing each hydrologic unit in the state. Those agencies were invited in an effort to bring together in short order, a broad, statewide knowledge base of natural resource conditions. NRCS and NDEP finalized the criteria, (see pages 1 and 5 of Attachment A), then selected May 27, 1998, and Reno, Nevada as the time and place for a meeting to divide the 72 watersheds into categories and rank those in category 1. More than 100 tribal governments, federal, state and county agencies, professional associations and private entities were invited to participate in the meeting. Approximately 32 people representing 25 agencies and entities participated.

At the May 27 meeting, the categories were explained and the goals of the meeting were stated: divide the 72 watersheds into four categories and then rank those in category 1. The group used information and worksheets shown in Attachment A and numerous reference maps and tables provided by the USGS to accomplish the meeting goals. A process including independent work and interactive consensus building, facilitated by a University of Nevada Cooperative Extension Educator, lead to the categorization results presented in the July 27, 1998,


NEVADA
8-Digit
Hydrologic Units
N
W
E
S
River
Lake
Hydrologic unit
0 30 60 90 120 Kilometers
17120007
17120008
17120009
17050107
17050102
17040211
17040213
16020308
16040205
16040201
17050106
17050104
17050105
16040109
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16040204
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16040101
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16020306
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18090102
16060009
16030006
15010013
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18090201
18090203
16060014
15010010
18090203
18090202
15010012
15010006
15010015
15010005
16060015
16030101
15030102
Produced by NDEP
Figure 1

Table 1. Nevada's 8-Digit Hydriologic Units

HUC#	Catalog Name	HUC#	Catalog Name
15010005	Lake Mead	16040105	Middle Humboldt
15010006	Grand Wash	16040106	Rock
15010010	Lower Virgin	16040107	Reese
15010011	White	16040108	Lower Humboldt
15010012	Muddy	16040109	Little Humboldt
15010013	Meadow Valley Wash	16040201	Upper Quinn
15010015	Las Vegas Wash	16040202	Lower Quinn
15030101	Havasu-Mohave Lakes	16040203	Smoke Creek Desert
15030102	Piute Wash	16040204	Massacre Lake
16020301	Hamlin-Snake Valleys	16040205	Thousand-Virgin
16020306	Southern Great Salt Lake Desert	16050101	Lake Tahoe
16020307	Pilot-Thousand Springs	16050102	Truckee
16020308	Northern Great Salt Lake Desert	16050103	Pyramid-Winnemucca Lakes
16030006	Escalante Desert	16050104	Granite Springs Valley
16040101	Upper Humboldt	16050201	Upper Carson
16040102	North Fork Humboldt	16050202	Middle Carson
16040103	South Fork Humboldt	16050203	Lower Carson
16040104	Pine	16050301	East Walker

Table 1. Nevada's 8-Digit Hydriologic Units (continued)

HUC#	Catalog Name	HUC#	Catalog Name
16050302	West Walker	17040211	Goose
16050303	Walker	17040213	Salmon Falls
16050304	Walker Lake	17050102	Bruneau
16060001	Dixie Valley	17050104	Upper Owyhee
16060002	Gabbs Valley	17050105	South Fork Owyhee
16060003	Southern Big Smoky Valley	17050106	East Little Owyhee
16060004	Northern Big Smoky Valley	17050107	Middle Owyhee
16060005	Diamond-Monitor Valley	17120007	Warner Lakes
16060006	Little Smoky-Newark Valley	17120008	Guano
16060007	Long-Ruby Valleys	17120009	Alvord Lake
16060008	Spring-Steptoe Valleys	18080001	Suprise Valley
16060009	Dry Lake Valley	18080002	Madeline Plains
16060010	Fish Lake-Soda Springs Valleys	18080003	Honey-Eagle Lakes
16060011	Ralston-Stone Cabin Valleys	18090101	Mono Lake
16060012	Hot Creek-Railroad Valleys	18090102	Crowley Lake
16060013	Cactus-Sarcobatus Flats	18090201	Eureka-Saline Valleys
16060014	Sand Spring-Tikaboo Valleys	18090202	Upper Amargosa
16060015	Ivanpah-Pahrump Valleys	18090203	Death Valley-Lower Amargosa

draft report. That draft report also contains a more in-depth account of the meeting. Rationale for category recommendations from the group included 303(d) listings, threatened or endangered species concerns including the Lahontan Cutthroat Trout Recovery Plan, other fish health concerns, geomorphic instability causing excessive erosion and other problems, ground water pollution, nonpoint source pollution and other water quality concerns.

Following a review of the criteria for ranking category one, each participant completed a prioritization worksheet (see pages 5 and 6 of Attachment A). During the review, the first criteria question was modified to include invasive aquatic or riparian plants as undesirable. Point totals from the worksheets were tallied and prioritization results were presented to the group prior to closing comments and a question-and-answer session.

The Nevada Unified Watershed Assessment and Restoration Priorities Draft Report was released for public review and comment on July 27, 1998. A request for comments notice was posted at public libraries across the state and published in newspapers with statewide and regional circulation. Comments were reviewed and considered prior to finalizing this report. Changes in the assessment category determinations resulting from comments received are noted below.

Results

Nevada's assessment consists of a map and a list of all watersheds within the state or tribal boundaries aggregated into 8-digit hydrologic units and placed into one of the four categories, with category 1 watersheds prioritized for restoration efforts (see Tables 2 and 3, and Figure 2).

Watersheds not meeting water quality or other natural resource goals were placed into category 1. This category includes 35 hydrologic units. Rationales include 303(d) listings, water quality concerns, lack of watershed function and consistency with neighboring state's UWA results. Twenty-seven watersheds were ranked by priority reflecting the severity of watershed problems and the potential for successful restoration projects over the next two years. Eight watersheds were added as a result of comments received from tribal governments, neighboring states and other entities within Nevada. Those watersheds are determined to be of equal priority.

Category 2 watersheds were determined to meet clean water and other natural resource goals, but may or may not need preventive action to maintain their present quality. Twenty-four hydrologic units fall into this category.

Category 3 watersheds, pristine or sensitive aquatic systems, were determined not to encompass a large enough portion of any 8-digit hydrologic unit to recommend placement in this category, although the Jarbidge Wilderness area was discussed as a potential candidate.

Table 2. Nevada's Unified Watershed Assessment and Restoration Priorities

HUC #	Watershed Name	Category	Priority
15010005	Lake Mead	2	
15010006	Grand Wash	4	
15010010	**Lower Virgin**	**1**	**10**
15010011	White	2	
15010012	**Muddy**	**1**	**11**
15010013	Meadow Valley Wash	2	
15010015	**Las Vegas Wash**	**1**	**4**
15030101	Havasu-Mohave Lakes	2	
15030102	Piute Wash	4	
16020301	Hamlin-Snake Valleys	2	
16020306	Southern Great Salt Lake Desert	2	
16020307	Pilot-Thousand Springs	2	
16020308	Northern Great Salt Lake Desert	2	
16030006	Escalante Desert	2	
16040101	**Upper Humboldt**	**1**	**13**
16040102	**North Fork Humboldt**	**1**	**20**
16040103	**South Fork Humboldt**	**1**	**19**
16040104	**Pine**	**1**	**22**
16040105	**Middle Humboldt**	**1**	**14**
16040106	**Rock**	**1**	**23**
16040107	**Reese**	**1**	**18**
16040108	**Lower Humboldt**	**1**	**12**
16040109	**Little Humboldt**	**1**	**24**
16040201	**Upper Quinn**	**1**	**26**
16040202	Lower Quinn	2	
16040203	**Smoke Creek Desert**	**1**	
16040204	Massacre Lake	2	
16040205	Thousand-Virgin	2	
16050101	**Lake Tahoe**	**1**	**6**
16050102	**Truckee**	**1**	**1**
16050103	**Pyramid-Winnemucca Lakes**	**1**	**8**
16050104	Granite Springs Valley	4	
16050201	**Upper Carson**	**1**	**5**
16050202	**Middle Carson**	**1**	**2**
16050203	**Lower Carson**	**1**	**3**
16050301	**East Walker**	**1**	**15**

Table 2. Continued

HUC #	Watershed Name	Category	Priority
16050302	**West Walker**	**1**	**16**
16050303	**Walker**	**1**	**9**
16050304	**Walker Lake**	**1**	**7**
16060001	Dixie Valley	4	
16060002	Gabbs Valley	4	
16060003	Southern Big Smoky Valley	2	
16060004	Northern Big Smoky Valley	2	
16060005	Diamond-Monitor Valley	2	
16060006	Little Smoky-Newark Valley	4	
16060007	Long-Ruby Valleys	2	
16060008	Spring-Steptoe Valleys	2	
16060009	Dry Lake Valley	4	
16060010	Fish Lake-Soda Springs Valley	4	
16060011	Ralston-Stone Cabin Valley	4	
16060012	Hot Creek-Railroad Valleys	2	
16060013	Cactus-Sarcobatus Valleys	4	
16060014	Sand Spring-Tikaboo Valleys	4	
16060015	Ivanpah-Pahrump Valleys	2	
17040211	**Goose**	**1**	
17040213	**Salmon Falls**	**1**	**21**
17050102	**Bruneau**	**1**	**17**
17050104	**Upper Owyhee**	**1**	**25**
17050105	**South Fork Owyhee**	**1**	**27**
17050106	East Little Owyhee	4	
17050107	Middle Owyhee	2	
17120007	Warner Lakes	2	
17120008	Guano	4	
17120009	Alvord Lake	2	
18080001	**Surprise Valley**	**1**	
18080002	Madeline Plains	2	
18080003	**Honey-Eagle Lakes**	**1**	
18090101	**Mono Lake**	**1**	
18090102	**Crowley Lake**	**1**	
18090201	**Eureka-Saline Valleys**	**1**	
18090202	**Upper Amargosa**	**1**	
18090203	Death Valley-Lower Amargosa	2	

Table 3. Nevada's Category 1 Watersheds and Restoration Priorities

HUC #	Watershed Name	Category	Criteria	Priority
16050102	Truckee	1	a	1
16050202	Middle Carson	1	a	2
16050203	Lower Carson	1	a	3
15010015	Las Vegas Wash	1	b,c	4
16050201	Upper Carson	1	a	5
16050101	Lake Tahoe	1	a	6
16050304	Walker Lake	1	c	7
16050103	Pyramid-Winnemucca Lakes	1	a	8
16050303	Walker	1	c	9
15010010	Lower Virgin	1	a	10
15010012	Muddy	1	a	11
16040108	Lower Humboldt	1	a	12
16040101	Upper Humboldt	1	a	13
16040105	Middle Humboldt	1	a	14
16050301	East Walker	1	a	15
16050302	West Walker	1	a	16
17050102	Bruneau	1	b	17
16040107	Reese	1	c	18
16040103	South Fork Humboldt	1	c	19
16040102	North Fork Humboldt	1	c	20
17040213	Salmon Falls	1	a	21
16040104	Pine	1	c	22
16040106	Rock	1	b	23
16040109	Little Humboldt	1	b	24
17050104	Upper Owyhee	1	a	25
16040201	Upper Quinn	1	b	26
17050105	South Fork Owyhee	1	b	27
18080001	Surprise Valley	1	*	
18080003	Honey-Eagle Lakes	1	*	
18090101	Mono Lake	1	*	
18090102	Crowley Lake	1	*	
18090201	Eureka-Saline Valleys	1	*	
18090202	Upper Amargosa	1	*,b	
17040211	Goose	1	**	
16040203	Smoke Creek	1	b,c	

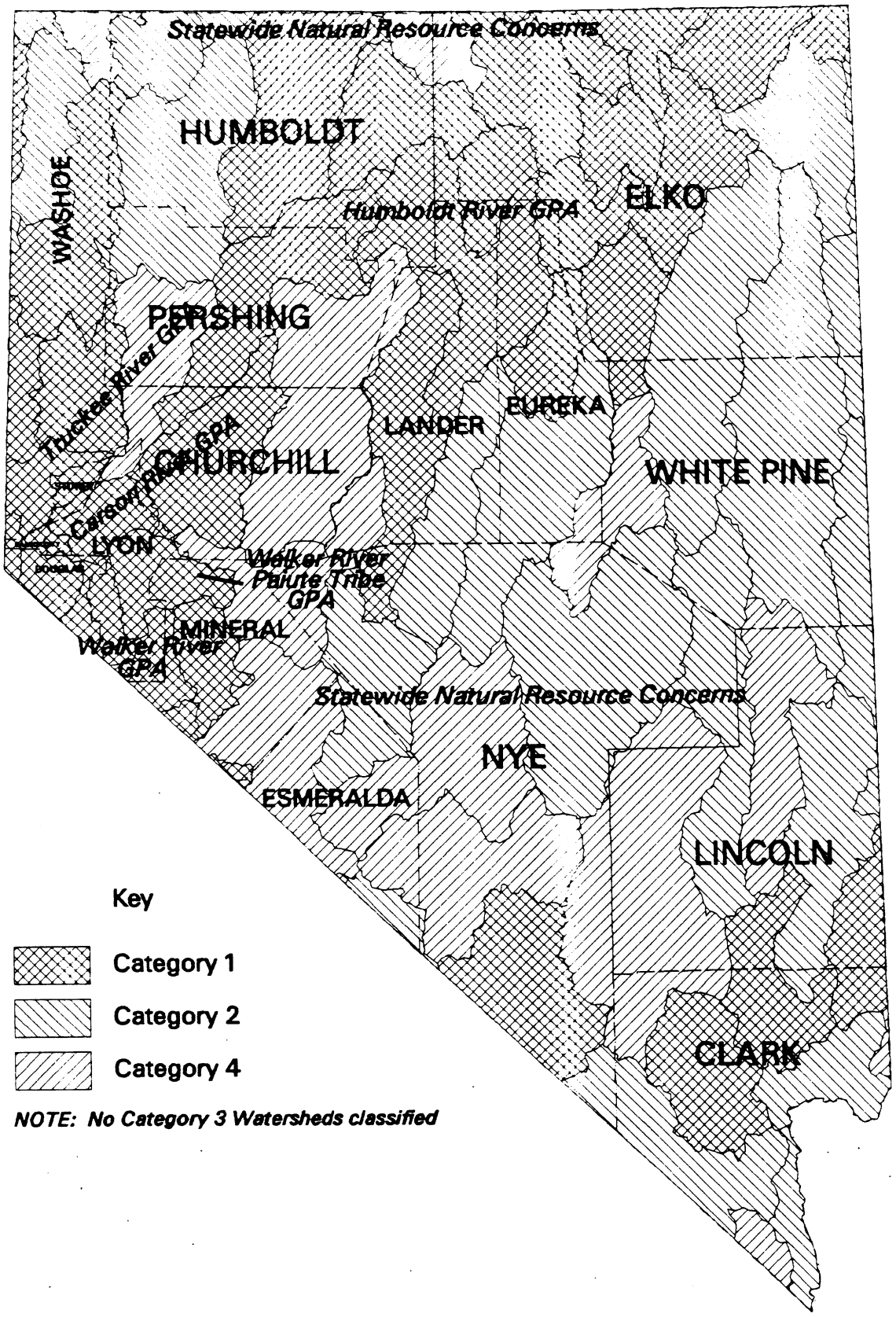
Criteria:
a - Water Quality Impaired, Nevada's 303(d) List
b - Watershed is not Functioning
c - Water Quality Concerns

* - For Consistency with California
** - For Consistency with Oregon

Figure 2

CLEAN WATER ACTION PLAN

Unified Watershed Assessment Categories
Geographic Priority Areas



Natural Resources Conservation Service
September, 1998

Produced by the USDA NRCS Resource Staff

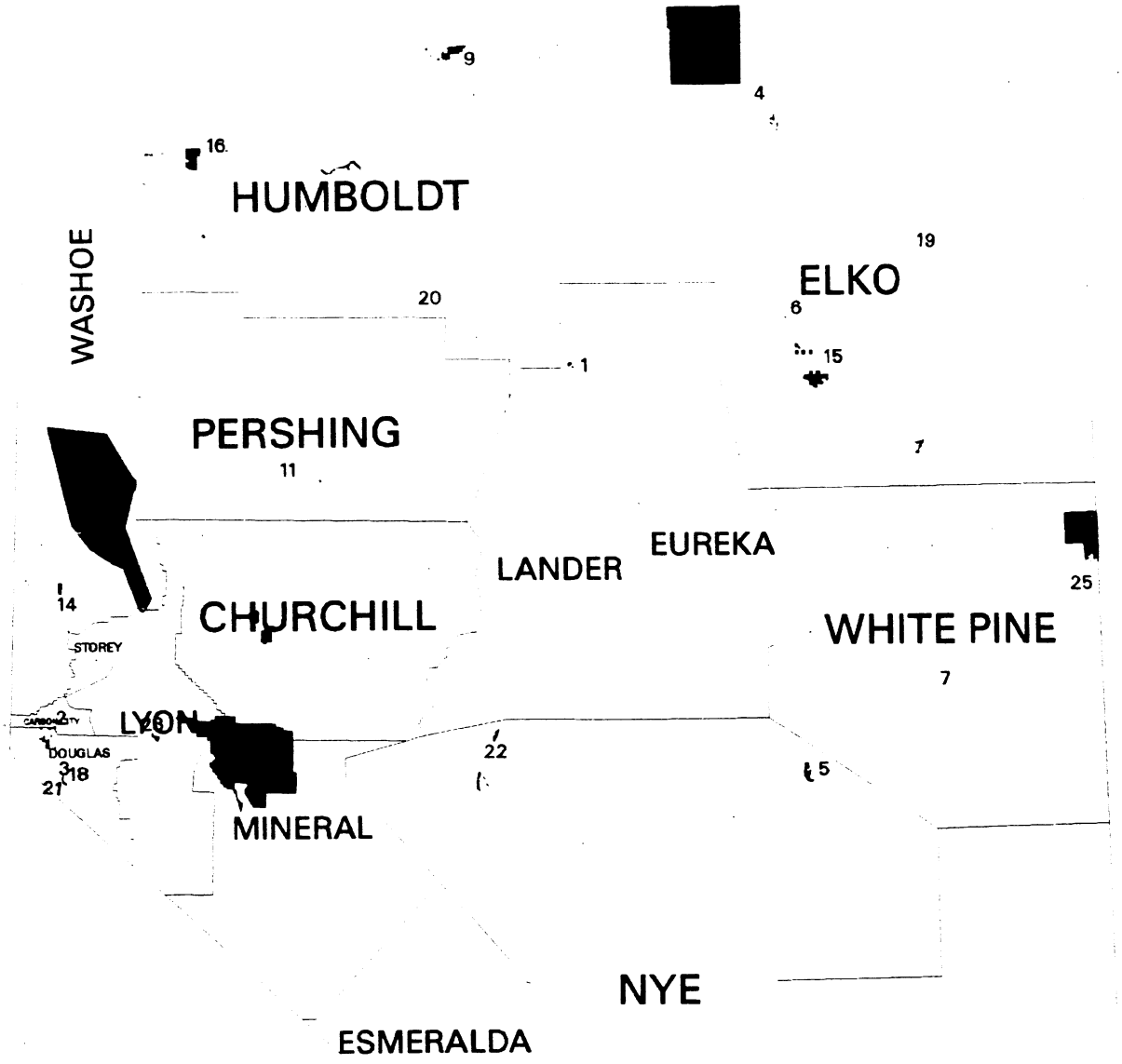
Category 4 watersheds, those with insufficient data, make up the remaining 13 hydrologic units in the state.

Discussion

Various comments received during the comment period included recommendations for category changes. Some recommendations were incorporated into the assessment, as noted above, while others were not. Recommendations not incorporated into the assessment deserve some discussion. One recommendation was to upgrade the Lake Mead hydrologic unit (#15010005) from category 2 to category 1. This hydrologic unit was discussed thoroughly at the May 27 meeting where it was determined that although portions of this watershed are problematic, the problem areas are localized and directly related to category 1 tributary watersheds. It was also recommended that the Pahranagat Valley portion of the White River hydrologic unit (#15010011) be upgraded from category 2 to category 1. NRCS and NDEP acknowledge that water quality and listed species concerns exist, however the Pahranagat Valley does not constitute a large enough portion (15% to 25%) of the White River unit to warrant the classification change. Concerns were also raised about range and water body conditions in the North Big Smoky Valley and South Big Smoky Valley hydrologic units (#16060004 & #16060003), listed species in the Lower Quinn unit (#16040202) and ground water quality in the Ralston - Stone Cabin unit (#16060011). NRCS and NDEP acknowledge these concerns and intend to work with the commenting entities to determine the extent and severity of the problems and make appropriate adjustments to the assessment in the future. Finally, one stakeholder group with jurisdiction over multiple high priority category 1 units within a single river basin recommended that the entire river basin be considered a single unit. To maintain consistency with the Clean Water Action Plan, Nevada will adhere to the 8-digit hydrologic unit scale for the purpose of reporting the Unified Watershed Assessment results. We will work with the above-mentioned group, and others as appropriate, in developing restoration strategies for areas delineated by the local groups to meet their needs, such as river basins, and in funding the implementation of those strategies in an equitable way.

Tribal Coordination

NRCS contacted each tribal government within Nevada (see Figure 3) and received comments from six tribes. Four have completed their assessments (see Attachment B), one has hired a consultant and the other has expressed interest in performing their own assessment. While Nevada's assessment is not consistent with every tribal category and priority determination received to date, NRCS and NDEP will continue to solicit input from tribal governments in order to make future updates. NRCS and NDEP agree to recognize tribal determinations and work with tribes in developing their restoration action strategies.



##	Name	Acres	
1	Battle Mountain	683	
2	Carson Colony	160	
3	Dresslerville Colony	39	
4	Duck Valley	289,819	(NV/ID)
5	Duckwater	3,814	
6	Elko Colony	193	
7	Ely Colony	100	
8	Fallon	5,540	
9	Ft. McDermitt	35,326	(NV/OR)
10	Las Vegas	3,867	
11	Lovelock Colony	20	
12	Moapa	71,354	
13	Pyramid Lake	476,689	
14	Reno-Sparks Colony	2,004	
15	South Fork	13,049	
16	Summit Lake	10,863	
17	Walker River	323,406	
18	Washoe	63,400	(NV/CA)
19	Wells Colony	80	
20	Winnemucca Colony	360	
21	Woodfords Colony	80	
22	Yomba Colony	4,718	
23	Yerington	1,632	
24	Fort Mohave	3,794	(1)
25	Goshute	65,538	(2)

(1) Serviced by Arizona
(2) Serviced by Utah

Figure 3

Indian Lands
State of Nevada
June, 1998

Produced by NRCS - NV Resource Staff

ATTACHMENT A

CRITERIA FOR CATEGORIZING WATERSHEDS

A. Is water quality impaired?

Initially, the State 303(d) list will be used to demonstrate water quality impairment. Other reports or documentation will also be considered, either during the May 27 meeting or during the public review period. If water quality is impaired, the watershed is placed in Category 1. If water quality is not impaired or insufficient water quality data exist, proceed to question B.

B. Is watershed functioning?

In determining whether a watershed is functioning, the condition and function of the riparian component should be the primary consideration. In addition, the upland component as it relates to riparian function and water quality should be considered. Initially, BLM and USFS surveys and evaluations will be used on land managed by those agencies, but additional documentation from other sources will also be considered. Some professional judgement must be used in cases where first-hand knowledge exists, but no documentation is available. If a watershed is non-functioning, it is placed in Category 1. If watershed is functioning or insufficient data exist, proceed to question C.

C. Is watershed functioning at risk, or should it be considered pristine or sensitive?

Watersheds with no documented water quality impairment and determined to be functioning will be considered functioning at risk (Category 2) unless a designation exists which demonstrates pristine or sensitive status. Those watersheds will be placed in Category 3. If data and knowledge are insufficient to determine watershed function, the watershed is placed in Category 4.

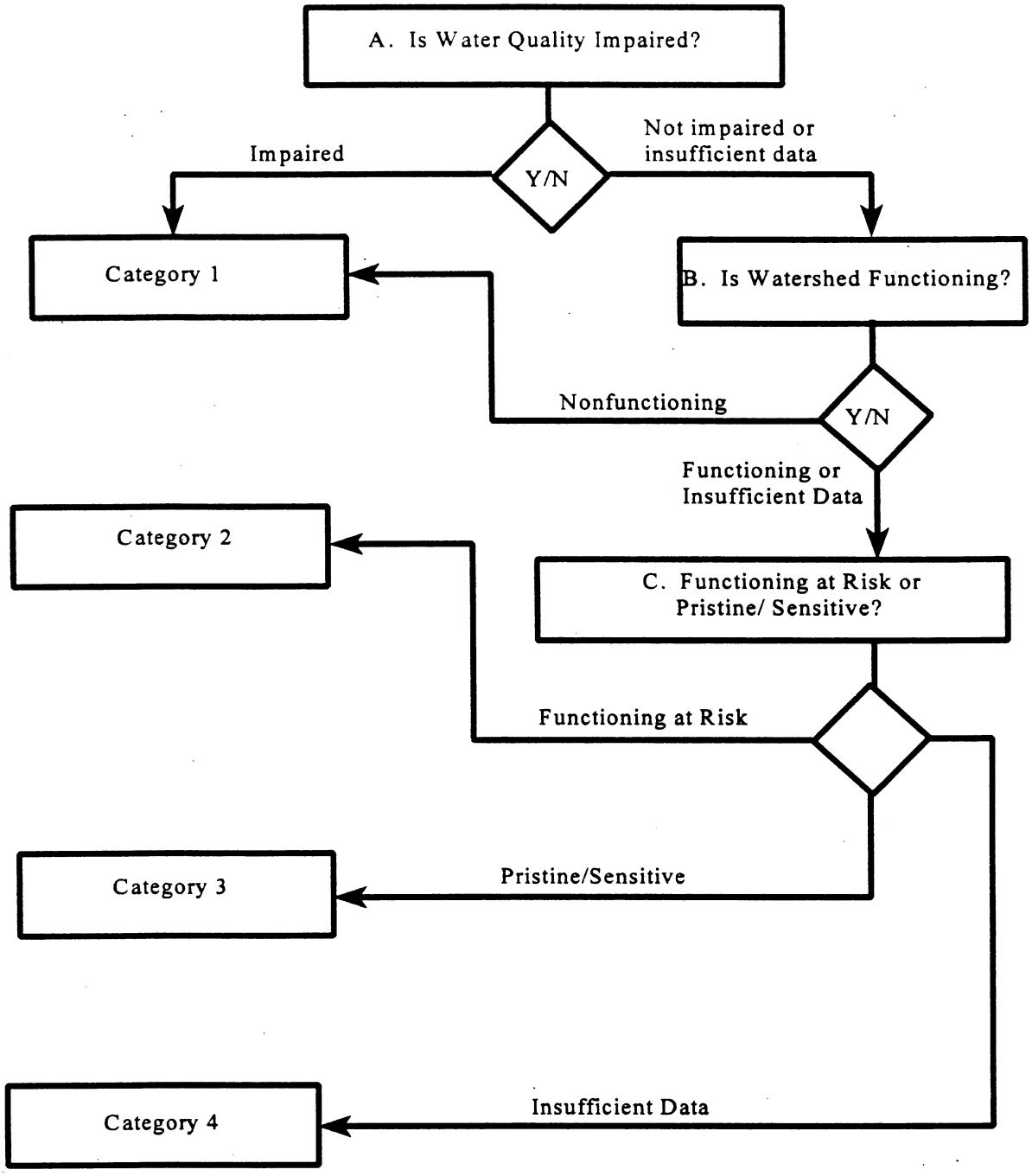

A. Is Water Quality Impaired?
Impaired
Y/N
Not impaired or insufficient data
Category 1
B. Is Watershed Functioning?
Nonfunctioning
Y/N
Functioning or Insufficient Data
Category 2
C. Functioning at Risk or Pristine/ Sensitive?
Functioning at Risk
Category 3
Pristine/Sensitive
Category 4
Insufficient Data

Table IA: Watershed Category Worksheet

HUC#	Catalog Name	Category
15010005	Lake Mead	
15010006	Grand Wash	
*15010010	Lower Virgin	
15010011	White	
*15010012	Muddy	
15010013	Meadow Valley Wash	
15010015	Las Vegas Wash	
15030101	Havasu-Mohave Lakes	
15030102	Piute Wash	
16020301	Hamlin-Snake Valleys	
16020306	Southern Great Salt Lake Desert	
16020307	Pilot-Thousand Springs	
16020308	Northern Great Salt Lake Desert	
16030006	Escalante Desert	
*16040101	Upper Humboldt	
+16040102	North Fork Humboldt	
+16040103	South Fork Humboldt	
+16040104	Pine	
*16040105	Middle Humboldt	
16040106	Rock	
16040107	Reese	
*16040108	Lower Humboldt	
16040109	Little Humboldt	
16040201	Upper Quinn	
16040202	Lower Quinn	
16040203	Smoke Creek Desert	
16040204	Massacre Lake	
16040205	Thousand-Virgin	
*16050101	Lake Tahoe	
*16050102	Truckee	
*16050103	Pyramid-Winnemucca Lakes	
16050104	Granite Springs Valley	
*16050201	Upper Carson	
*16050202	Middle Carson	
*16050203	Lower Carson	
*16050301	East Walker	

*Impaired +Water Quality Concerns

Table II: Hydrologic Catalog Unit Code, Catalog Name and Category

HUC#	Catalog Name	Category
*16050302	West Walker	
*16050303	Walker	
16050304	Walker Lake	
16060001	Dixie Valley	
16060002	Gabbs Valley	
16060003	Southern Big Smoky Valley	
16060004	Northern Big Smoky Valley	
16060005	Diamond-Monitor Valley	
16060006	Little Smoky-Newark Valley	
16060007	Long-Ruby Valleys	
16060008	Spring-Steptoe Valleys	
16060009	Dry Lake Valley	
16060010	Fish Lake-Soda Springs Valleys	
16060011	Ralston-Stone Cabin Valleys	
16060012	Hot Creek-Railroad Valleys	
16060013	Cactus-Sarcobatus Flats	
16060014	Sand Spring-Tikaboo Valleys	
16060015	Ivanpah-Pahrump Valleys	

*Impaired +Water Quality Concerns

HUC#	Catalog Name	Category
17040211	Goose	
*17040213	Salmon Falls	
17050102	Bruneau	
*17050104	Upper Owyhee	
17050105	South Fork Owyhee	
17050106	East Little Owyhee	
17050107	Middle Owyhee	
17120007	Warner Lakes	
17120008	Guano	
17120009	Alvord Lake	
18080001	Suprise Valley	
18080002	Madeline Plains	
18080003	Honey-Eagle Lakes	
18090101	Mono Lake	
18090102	Crowley Lake	
18090201	Eureka-Saline Valleys	
18090202	Upper Amargosa	
18090203	Death Valley-Lower Amargosa	

QUESTIONS FOR PRIORITIZING CATEGORY 1 WATERSHEDS

1. **Are aquatic species designated as threatened, endangered or special status at risk?**

   This question focuses on the condition of species and habitat which are part of the aquatic system. Things to consider include designated areas of critical habitat protection and recovery plans, or the need for one.

2. **Are fisheries impaired and continuing to decline (i.e., not recovering)?**

   Fisheries condition is being used as another indicator of aquatic system health. This question focuses not just on threatened, endangered or special status fish, but on whether fish reproduction in the rivers and streams (listed species or not) is impaired and getting worse, or occurring at all.

3. **Are human uses of surface water impaired or threatened because of poor water quality?**

   Uses include public water supply, agriculture (irrigation, stock watering), recreation, mining and other industry. The amount of water available is not the issue, but rather the quality of the water available. Focus on current uses, not future possible uses.

4. **Are human uses of ground water impaired or threatened because of poor water quality?**

   As with question 3, focus on water quality and current uses.

5. **Is a grass-roots / interagency watershed-based partnerships capable of restoration in existence?**

   The existence of watershed-based partnerships should facilitate the attainment of water quality or other aquatic system goals. Therefore, a watershed with an existing group will be given higher priority in the short term.

6. **Is it feasible to achieve water quality goals?**

   This question relies largely on professional judgement. Consider economic, technological, political and legal feasibility.

WORKSHEET FOR PRIORITIZING CATEGORY ONE WATERSHEDS

Hydrologic Unit Number	Name / Location	Question: ✓ if yes, leave blank if no or unknown 1	2	3	4	5	6	Total
15010010	Lower Virgin							
15010012	Muddy							
16040101	Upper Humboldt							
16040105	Middle Humboldt							
16040108	Lower Humboldt							
16050101	Lake Tahoe							
16050102	Truckee							
16050103	Pyramid / Winn. Lk.							
16050201	Upper Carson							
16050202	Middle Carson							
16050203	Lower Carson							
16050301	East Walker							
16050302	West Walker							
16050303	Walker River							
17040213	Salmon Falls							
17050104	Upper Owyhee							

ATTACHMENT B

FALLON PAIUTE-SHOSHONE TRIBE

NATURAL RESOURCES DEPARTMENT

August 25, 1998

Dan Greenlee, CWAP Coordinator
Natural Resources Conservation Service
5301 Longley Lane
Building F, Suite 201
Reno, Nevada 89511

Dear Mr: Greenlee:

On August 12 we met with Rod Dahl of the Natural Resources Conservation Service to discuss the Clean Water Action Plan. The Fallon Paiute-Shoshone Tribe is deeply concerned about the quality of water in the Lower Carson River watershed. Our watershed has many uses which includes domestic, municipal, and irrigation. The quality of water for our basin has been greatly impacted by historical upstream practices as well as from the flood of 1997. We agree that our watershed is a Category 1, but feel that our Priority 3 should be elevated to a Priority 1. Negative historical agricultural, mining, and industrial practices have resulted in dissolved-solids, arsenic, boron, mercury and molybdenum in the Lower Carson River Watershed. Please see **Attachment A** which contains scientific findings that validate our request to increase from a Priority 3 to a Priority 1.

The effects from upstream mining (mercury and trace elements), agriculture (pesticides), industrial practices (raw sewage disposal), and poor soil quality from evapotranspiration have created a concern for the health and welfare of our people, wetlands and for the Tribes economic development. The mercury, uranium, pesticides, trace elements, and dissolved-solids in the Lahontan Reservoir not only affects our surface waters but also creates a concern for contamination to our ground water supply. Since the recharge to our ground water supply is provided primarily from the Carson River, the quality of the water to the Carson River is of great concern to our Tribes future. If we cannot depend on the quality of the water to improve, we cannot establish a stable and viable economic plan for the Fallon Tribe and its members.

We appreciate your cooperation with the Clean Water Action Plan. If you have any questions about our watershed concerns or request further assistance with the Clean Water Action Plan please contact Tony Greene or Rochanne Downs of our Natural Resources Department at (702) 423-3725.

Sincerely,

Alvin Moyle, Tribal Chairman
Fallon Paiute-Shoshone Tribe

Cc: Rod Dahl, NRCS

8955 Mission Road • Fallon, Nevada 89406-7180 • Tel 702-423-3725 or 702-423-3368 • Fax 702-423-3978

Attachment A.

The following historical information was sited from the U.S. Geological Survey, Circular 1170, Water Quality in the Las Vegas Valley Area and the Carson and Truckee River Basins – Nevada and California, 1992-1996.

- Agricultural activities have contributed to the contamination of the Carson Desert groundwater system from irrigation practices through which dissolved solids, trace elements, nutrients, and pesticides have leached from the soil into the groundwater. Some important findings are:
  1) During October 1969-April 1990, concentrations of orthophospate in the groundwater beneath agricultural areas were greater than those beneath urban areas.
  2) Pesticides were detected in 27% of shallow monitoring wells sampled in the Carson Desert agricultural areas.
  3) Pesticides were detected in 17 of 19 samples collected by irrigation drains in the Carson Desert agricultural area in 1995. Atrazine, simazine, and prometon were most commonly detected in these samples.
  4) Available data from October 1969-April 1990 taken upstream from Lahontan Reservoir showed detections of 2,4-D, y-BHC, chlordane, DDD, DDE, DDT, diazinon, endrin, heptachlor, and carbaryl.

- The reach of the Carson River downstream from Carson City currently is being investigated by other researchers as a U.S. Environmental Agency Superfund Site.

- Historically mining activities have released trace elements into the Carson River. Some of the activities were:
  1) The Comstock Lode, a sliver and gold-rich ore body, was intensively mined during 1860-80. During this period mercury amalgamation was used to recover silver and gold from bulk ore.
  2) An estimated 7,500 tons of elemental mercury was lost from ore processing, mostly in the Carson River Basin downstream from Carson City.
  3) Silver and mercury concentrations in the Carson River bottom sediments downstream from the Comstock Lode mining area ranged from nearly 3 to 25 times higher than those at an upstream background site.
  4) The Leviathan Mine was operated intermittently from the early 1860's until 1962. About 22 million tons of overburden containing sulfide minerals were discarded in the mine area.
  5) Aluminum, arsenic, chromium, copper, lead, mercury, and nickel concentrations were enriched in the bottom sediment of the East

Fork Carson River downstream from the confluence of Bryant Creek. The source of these trace elements probably is acidic drainage and eroded mine tailings from the Leviathan Mine and other mines.

6) Ore tailings still exist along the Carson River, especially in the flood plains, which continue to erode into the river during periods of high stream flow.

- Groundwater near the end of the flow system, in Carson Desert Wetlands, has had uranium concentrations ranging from 1.9-1500 ug/L with the medium value of 200 ug/L. (Currently there is no maximum contaminant level established for uranium, however, the proposed maximum contaminant level is 20 ug/L.)

- Geothermal systems in the Carson Desert have added arsenic (130 ug/L) and boron (18,000 ug/L) to the ground and surface water systems.

- Hot temperatures accompanied by wind has caused evapotranspiration which leaves behind high concentrations of dissolved-solids. This has created a nearly fivefold increase to 604 Mg/L of dissolved solids.

- Evapotranspiration increases the dissolved solids of water in some areas to concentrations greater than that of seawater.

- Treated sewage, up until 1987, was discharged into the Carson River.

The following Flood 1997 information was sited from the U.S. Geological Survey, Fact Sheet FS-001-98 – Mercury and Suspended Sediment, Carson River Basin, Nevada – Loads To and From Lahontan Reservoir in Flood Year 1997 and Deposition in Reservoir Prior to 1983.

- During the January 1997 Flood, 200,000 tons of sediment and 3,000 pounds of total mercury flowed past the Carson River streamflow gauge near Fort Churchill.

- About 600,000 tons of sediment and 10,000 pounds of total mercury flowed past the Fort Churchill Site.

- About 2,000 pounds of total mercury was discharged from the Lahontan Reservoir.

- The Lahontan Reservoir retained about 90% of the sediment and 80% of the total mercury that flowed past the Fort Churchill site.

Pyramid Lake Paiute Tribal Council

Post Office Box 256
Nixon, Nevada 89424
Telephone: (702) 574-1000 / 574-1001 / 574-1002
FAX (702) 574-1008

August 24, 1998

TO WHOM IT MAY CONCERN:

The Pyramid Lake Paiute Tribe is requesting comments on the enclosed Unified Watershed Assessment. This document has been drafted in response to the Clean Water Action Plan, which presents a new, cooperative approach to restoring and protecting water quality. State, federal, tribal, and local governments are asked to work with stakeholders, tribal committees, and interested citizens to: (1) identify watersheds with the most critical water quality problems, and (2) work together to focus resources and implement effective strategies to solve those problems. This framework is intended to help focus thoughts and action for unified watershed assessments, restoration priorities, and restoration action strategies.

Comments are due prior to September 18, 1998 at the Pyramid Lake Paiute Tribe administration complex. Please send comments to:

Pyramid Lake Paiute Tribe
Environmental Department
PO Box 256
Nixon, NV 89424

If you have any questions please contact Gerry Emm, Environmental Director or Katrina Leavitt, Environmental Specialist at (702) 574-1000.

Sincerely,

Mervin Wright, Jr.
Tribal Chairman

PYRAMID LAKE PAIUTE TRIBE

UNIFIED WATERSHED ASSESSMENT

August 1998

DRAFT REPORT

INTRODUCTION

In February, 1998 the U.S. Environmental Protection Agency (EPA) and the United States Department of Agriculture (USDA) released the *Clean Water Action Plan*, which presents a broad vision of watershed protection-in which protections for surface freshwater, wetlands, groundwater, and natural resources are integrated with traditional clean water and human health objectives-that includes a new, cooperative approach to restoring and protecting water quality. The Pyramid Lake Paiute Tribe is being asked to work with government agencies, special interest groups, stakeholders, tribal members, and interested citizens to:

1. Identify watersheds with the most critical water quality problems.
2. Work together to focus resources and implement effective strategies to solve these problems.

This framework is intended to help focus thoughts and action for *unified watershed assessments, restoration priorities, and restoration action strategies.*

An important first step in achieving the goals of the Clean Water Action Plan (CWAP) is the completion of a Unified Watershed Assessment. The key to this process is to use a watershed approach. Clean water is a product of a healthy watershed. When all elements within watersheds are well managed to prevent pollution and provide for the quality resources society values, the Nation will be well on its way to protecting and restoring its valuable resources. A watershed approach helps focus resources and efforts on controlling both point and non-point sources of pollution. A watershed effort also helps identify the most cost-effective ways to meet water quality goals.

The Unified Watershed Assessment is meant to identify those watersheds with the most critical water quality needs and direct resources toward correcting the identified problems. At the state and tribal level, assessments and priority setting will be used to allocate new resources approved by Congress for the CWAP.

States and tribes are taking the lead in assessing their watersheds. The eight-digit hydrologic unit code will be used by each state as the delimiting size factor. Each watershed will be evaluated and placed into one of the following four categories:

Category 1. Watersheds in need of restoration.

These watersheds do not meet or face imminent threat of not meeting clean water and other natural resource goals.

Category 2. Watersheds meeting goals, including those needing action to sustain water quality.

These watersheds currently meet clean water and other natural resource goals and standards and support healthy aquatic ecosystems.

Category 3. Watersheds with pristine or sensitive aquatic system conditions on lands administered by Federal, State or Tribal Governments.

These watersheds have exceptionally pristine water quality or other sensitive aquatic system conditions.

Category 4. Watersheds with insufficient data to make an assessment.

These watersheds lack data, critical data elements, or the data density to make a reasonable assessment at this time.

SCHEDULE

The Pyramid Lake Paiute Tribe will work to draft its Unified Watershed Assessment and restoration priorities for federal and public review by August 15, 1998. Following the review period, ending September 15, 1998, the Tribe will take into consideration all comments received and develop the final Unified Watershed Assessment and restoration priorities by October 1, 1998.

UNIFIED WATERSHED ASSESSMENT PROCESS FOR THE PYRAMID LAKE PAIUTE TRIBE

The Tribe's strategy to complete the Unified Watershed Assessment Process included: 1) Commenting on Nevada's Unified Watershed Assessment Process; and 2) Developing a Watershed Assessment and Ranking Process for waters within the Pyramid Lake Reservation. The Pyramid Lake Reservation is located within the Truckee River Hydrographic Basin and the Black Rock Desert Region (Map 1). The tribe utilized the suggested eight-digit hydrologic unit code (Map 2). Each hydrologic unit was placed into category 1 (need restoration) or category 2 (meeting goals) based upon a series of questions. Categories 3 (pristine/sensitive systems) and 4 (insufficient data) were not utilized for this assessment. Currently there are no watersheds within the reservation that are designated sensitive/pristine and a decision was made not to utilize category 4.

A tribal inter-disciplinary team developed both the criteria for placing each hydrologic unit into categories 1 or 2, and a ranking procedure for all category 1 watersheds. If the answer to any one of the nine questions listed on pages 4 & 5 was yes then the hydrologic unit was placed in category 1. Ranking of category 1 watersheds were determined by totaling the number of positive responses to the questions listed on

pages 4 & 5. The hydrologic unit with the most positive responses received the highest ranking.

RESULTS

The three hydrologic units within the reservation were Smoke Creek Desert (16040203), Pyramid and Winnemucca Lakes (16050103), and Truckee River (16050102). All three hydrologic units were classified as category 1 (please reference page 6). The highest priority hydrologic unit was Pyramid & Winnemucca Lakes and the lowest was Smoke Creek Desert.

WATERSHED RESTORATION ACTION POLICY

The next step after finalizing this report is to develop Watershed Restoration Action Strategies for the portion of the watershed most in need of restoration. The Clean Water Action Plan states:

> "States and tribes should work with public agencies and private-sector organizations and citizens to develop, based on the initial schedule for the first two years, Watershed Restoration Action Strategies, for watersheds most in need of restoration."

The President's FY 1999 Clean Water and Watershed Restoration Budget Initiative provides most of the new resources for restoration efforts in those watersheds that have been identified as not meeting clean water and other natural resource goals (category 1 watersheds). Most new resources will be directed to those activities identified in the Watershed Restoration Action Strategies, which provide measurable improvements to water quality within these identified watersheds.

Federal agencies should work with the Tribe to ensure a coordinated approach to restoration and protection of watersheds. Federal agencies do not have the approval authority of the strategies developed by the Tribe, but where an existing restoration plan meets the goals of the Clean Water Action Plan, that existing restoration plan could serve as the Watershed Restoration Action Strategy.

QUESTIONS FOR PRIORITIZING CATEGORY 1 WATERSHEDS

If one or more of the following questions are true the watershed (8-digit hydrologic code) is designated category 1. Results for the August 1998 assessment are listed on page 6.

1. **Are any species designated as threatened, endangered, or special status at risk?**

   This question focuses on the condition of the species and habitat, which are part of the aquatic system. Things to consider include designated areas of critical habitat protection and recovery plans, or the need for one.

2. **Are fisheries impaired?**

   Fisheries condition is being used as another indicator of aquatic system health. This question focuses not just on threatened, endangered, or special status fish, but on whether fish reproduction in the rivers and streams (listed species or not) is impaired and getting worse, or occurring at all.

3. **Are human uses of ground water impaired or threatened because of poor quality?**

   Uses include public water supply, agriculture (irrigation, stock water), recreation, mining, and other industry. The amount of water available is not the issue, but rather the quality of the water available. The understanding is that the recharge of ground water is linked to surface water.

4. **Have cultural practices been impacted or impaired due to water quality?**

   The Tribe's history and lifestyle have had a direct historical link to the waters of the Truckee River and Pyramid Lake. Water quality has a direct link with these practices and the minimum standard will be safe for fishing and swimming.

5. **Are agricultural practices occurring which contribute to water quality problems?**

   The main emphasis is to eliminate irrigation tail-water runoff and over-irrigation thereby reducing the amount of point and non-point source pollution.

6. **Is the upland range condition deteriorating?**

   A range management unit that is in a declining condition will be a major contributor to water quality problems, especially due to the fact that the majority of the range units at the Pyramid Lake Reservation are located adjacent to either the Truckee River or Pyramid Lake.

7. **Is the elimination/declining health of wetlands and riparian areas within the reservation watershed contributing to the water quality problem?**

   Since wetlands and riparian conditions are an indication of the health of the hydrological system, the development and maintenance of wetland and riparian areas are essential for the function of the system.

8. **Has there been a shift in riparian vegetative communities toward noxious or undesirable plant species, which has contributed to bank instability and sediment loading?**

   The invasion of noxious and undesirable plant species has contributed to the elimination of native and desirable species that will contribute to the riparian and wetland characteristics of the system. This growth of desirable plant species will help control bank instability and thus improve the water quality within the system.

9. **Are Cui-ui and Lahontan Cutthroat Trout (LCT) reproducing naturally?**

   Since the spawning of these fish can be directly tied to the water quality of the Truckee River (both chemical and temperature), natural spawn would be an indication of the health of the system.

WORKSHEET FOR PRIORITZING CATEGORY ONE WATERSHEDS

Category 1 watersheds (8-digit hydrologic unit) were ranked based on the number of positive responses to the questions listed on pages 4-5. A "Y" indicates a positive response and a "—" indicates a negative response. The hydrologic unit with the highest number of positive responses received the highest priority ranking. The Pyramid and Winnemucca Lakes unit is the Tribe's highest ranked hydrologic unit.

QUESTION NO.	Smoke Creek Desert Hydrologic Unit (16040203)	Pyramid & Winnemucca Lakes Hydrologic Unit (16050103)	Truckee River Hydrologic Unit (16050102)
Question 1	--	Y	Y
Question 2	--	Y	Y
Question 3	--	Y	Y
Question 4	Y	Y	Y
Question 5	--	--	--
Question 6	Y	Y	--
Question 7	Y	Y	Y
Question 8	Y	Y	Y
Question 9	--	Y	Y
TOTAL(S)	4	8	7
PRIORITY	3	1	2

Map 1

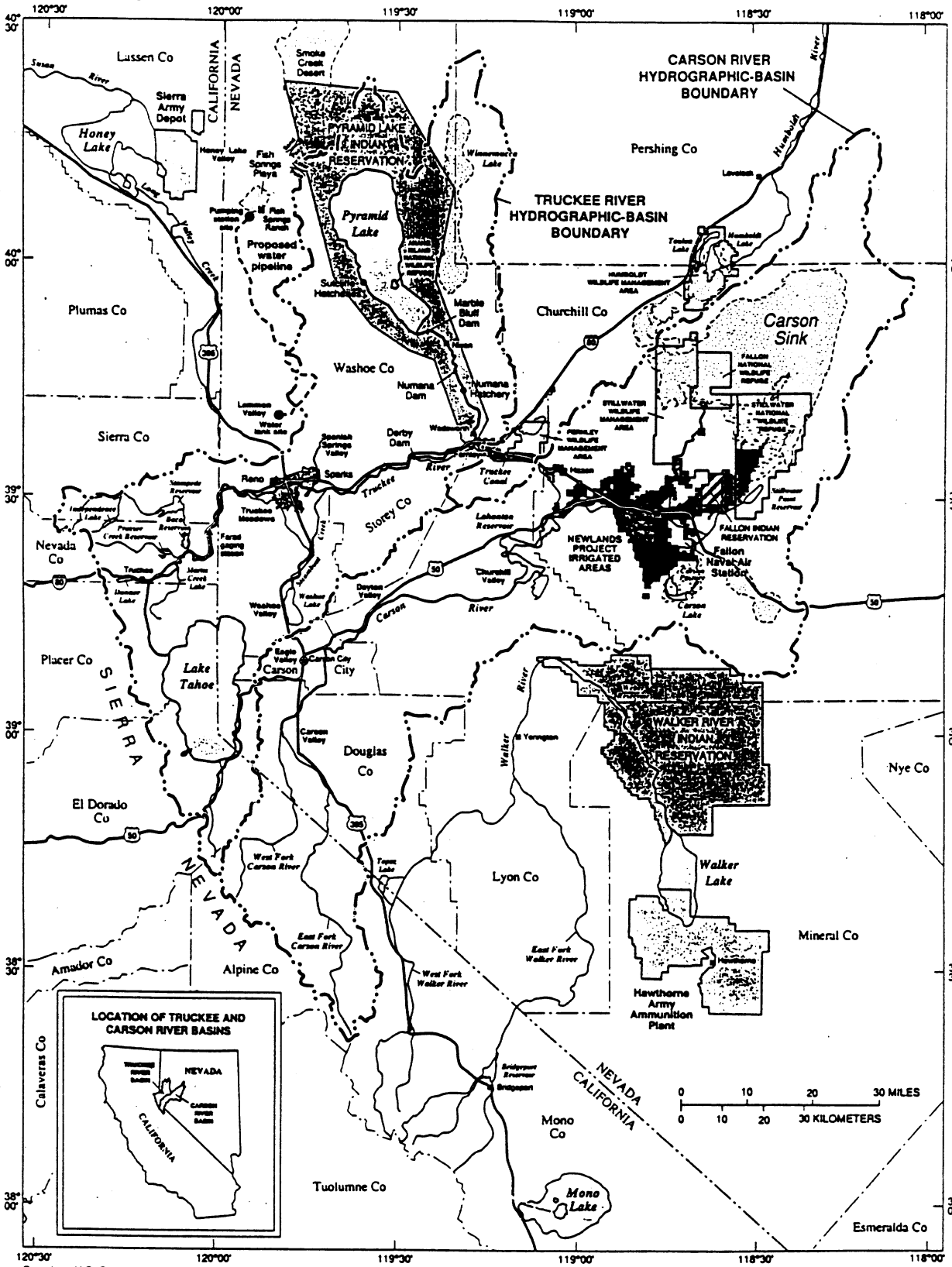
HYDROLOGIC FEATURES OF THE TRUCKEE AND CARSON RIVER BASINS AND ADJACENT AREAS, WESTERN NEVADA AND EASTERN CALIFORNIA

By
Jeffrey V. Trionfante and Lorri A. Peltz

1994

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 93-368



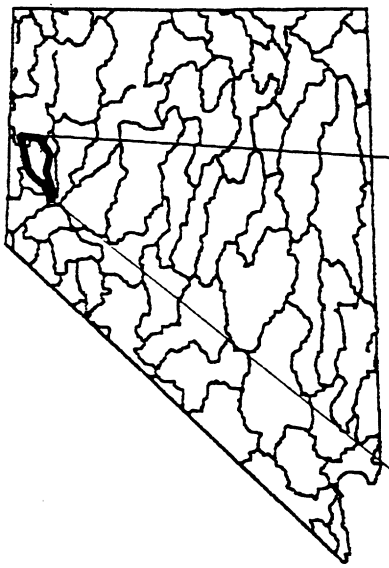
Base from U.S. Geological Survey digital data 1:100,000, 1977-85
Albers Equal-Area Conic projection
Standard parallels 29°30' and 45°30', central meridian -119°00'

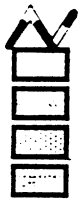
For additional information, contact
District Chief / U.S. Geological Survey
333 W. Nye Lane / Carson City, NV 89706

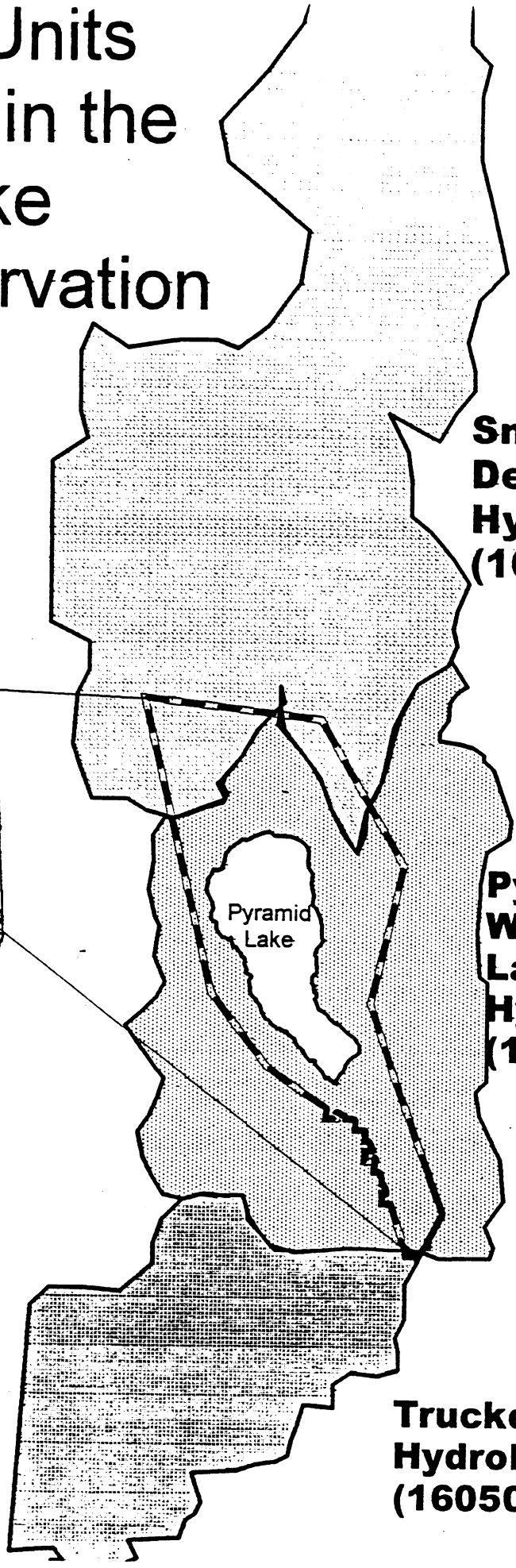
A product of the Truckee-Carson Program

Hydrologic Units (8 digit) within the Pyramid Lake Indian Reservation

Map 2







Information Compiled by
Phoebe Bender
GIS Specialist
Pyramid Lake Paiute Tribe
August 1998

Duckwater Shoshone Tribe

P.O. Box 140068
Duckwater, Nevada 89314

September 4, 1998

Jim Smitherman
Nevada Division of Environmental Protection
333 West Nye Lane, Suite 138
Carson City, Nevada 89706-0851

Dear Mr. Smitherman:

The Duckwater Shoshone Tribe would like to express its appreciation for being given the opportunity to review the Clean Water Action Plan for Nevada. Presently under the Plan, the Tribe's watersheds (HUC #16060012 Hot Creek-Railroad Valleys) are listed as category 2 prioritization. However, we feel that our watersheds should be classified as category 1 and have outlined our reasons below.

We have been working with the U.S. Fish and Wildlife Service (USFWS) on a recovery plan for the Railroad Valley Springfish (USFWS, 1996). The Railroad Valley Springfish is listed as a threatened species. Since the Tribe has striven to maintain the critical habitat of the species and plans to continue to do so, we feel that a category I classification is justified. Thus, we have enclosed the Recommended Priority Designation Worksheet.

If you have any questions or need additional information, please contact Marissa Blackeye, Environmental Programs Coordinator, at (702) 863-0222 or Jerry Millett, Tribal Manager, at (702) 863-0227. Thank you for your assistance in this matter.

Sincerely,

Rodney Mike

Rodney Mike, Chairman
Duckwater Shoshone Tribe

Enclosures (1)

pc: Jerry Millett, Tribal Manager
Mary Lou Millett, Health Director
Stella Steele, SERG, Inc.

Tribe Phone: (702) 863-0227 Tribe Fax: (702) 863-0301
Health Phone: (702) 863-0222 Health Fax: (702) 863-0142
School Phone: (702) 863-0242
School Fax: (702) 863-0157

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

215 West Bridge Street
Suite 11-A
Yerington, NV 89447-2554
Phone: (702) 463-2265
FAX: (702) 463-3780

"Commitment to Quality"

SUBJECT: Water Quality Clean Water Action Plan DATE: 8/13/98

TO: Nick Pearson FILE CODE: 460

Re: Yomba Indian Reservation, Northern Nye County

On August 12 I met with Kevin Brady, tribal chairman, and Maurice Frank, Resource Section, of the Yomba Tribe to discuss the Clean Water Action Plan.

The tribe is taking the following actions. They will write correspondence to yourself and Jim Smitherman indicating that they believe that the Reese River should be a Category 1 watershed based on the fact that there is a spotted frog that is a candidate species for a T & E and that they are currently working with USF&W on a habitat conservation plan. They will also express concern that the watershed is not in a proper functioning condition due to downgrading in the southern end and problem siltation in the northern section of the reservation.

Maurice Frank is also going to be preparing the tribe's own watershed assessment with a copy to be forwarded for your records.

Mr. Brady and Mr. Frank have been working with the BIA on the needs for the Clean Water Action Plan so they were already well versed in its contents prior to my meeting.

If you need additional information due let me know.

Paul T Ragland

Paul Ragland
Resource Specialist

cc: Peggy Hughes
John Capurro
Dan Greenlee